

SURFACE DEFECT INSPECTION APPARATUS

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Abstract

PROBLEM TO BE SOLVED: To inspect the surface defect of a low gloss member while reducing the size and weight of an inspection apparatus by projecting a stripe pattern onto a place being inspected while specifying the angle between the optical axis and the place being inspected and then introducing the regular reflected light to an image pickup means.

SOLUTION: A sensor head 100 comprises a light guide 107 for guiding light for an external light source through an optical fiber 105 with reference to the optical axis 103, and a slit member 109 for converting the light from the external light source into planar stripe pattern light. A reflector 11 reflects that light toward a loupe 113 and the transmitted stripe light is reflected on a reflector 115 toward a plane 1 being inspected. Reflected light from the plane 1 being inspected is then reflected on a reflector 117 toward a CCD camera 119. An angle of 10 deg. is set between the plane 1 being inspected and the optical axis 103 so that a stripe image can be obtained with sufficiently high contrast. According to the arrangement, size of the inspection apparatus can be reduced while preventing the illumination means, cameras, and the like, from interfering with the plane 1 being inspected. Furthermore, the inspection apparatus can be reduced in weight because each reflector employs an aluminum member having mirror finished surface.

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